

information to the computer. One or more processors and an associated volatile or non-volatile memory execute instructions and manipulate information according to the operation of the associated client 12, ATP server 14, LFM 22, or fulfillment server 16, as the case may be. Clients 12, fulfillment server 16, LFMs 22, and ATP servers 14 may be embodied in computer software, in computer hardware, or in any appropriate combination of software and hardware, and may be integral to or separate from one another. To support high availability or other performance requirements, system 10 may incorporate redundant clients 12, fulfillment servers 16, LFMs 22, and ATP servers 14, according to particular needs.

In one embodiment, for each of the ATP servers 14 and/or LFMs 22 in system 10, fulfillment server 16 may maintain an LFM or ATP server name, suitable descriptive information for LFM 22 or ATP server 14, an Internet Protocol (IP) or other network address for LFM 22 or ATP server 14, the identity of a designated back-up LFM 22 or ATP server 14 in case LFM 22 or ATP server 14 fails, and any other suitable information. Fulfillment server 16 may maintain ATP server group and hierarchy information for sourcing purposes. ATP server groups may model, for example, supplier groups, pricing groups, or geographic locations. Since fulfillment server 16 may operate according to both group and supplier sourcing preferences, as described more fully below, it may be desirable to relate one or more suppliers to any applicable ATP server groups. As an example, client 12 or an associated user might specify a preferred supplier, a preferred group, or both, in which case fulfillment server 16 directs component ATP requests to the appropriate LFMs 22 and/or ATP servers 14 based on these preferences and the supplier-group mappings. Fulfillment server 16 may maintain, for each ATP server group, a group name, suitable descriptive information for the group, a parent group for the group, a list of child groups, a list of ATP servers 14 and/or LFMs 22 in the group, a list of active suppliers associated with the group, and any other appropriate information. Sourcing preferences may be defined at any level within the ATP server group hierarchy.

A product may represent anything a user associated with client 12 may request, and may be tangible (e.g., a computer) or non-tangible (e.g., a service). Products are related to items, each of which can be related to multiple products. This allows for the modeling of different price points, lead times, suppliers, locations, or

any other suitable characteristics for the same item. In addition, multiple items can be related to the same product. This allows, for example, for the modeling of multiple suppliers of the same product. In one embodiment, fulfillment server 16 may maintain, for each product, a product name, a product identifier, a product group, a  
5 product description, a default unit of measure (UOM), a default lot size or multiple, a cancellation window in which client 12 or an associated user may cancel an order, a customer-ranked, supplier-ranked, or other list of alternates or substitutes for the product, supplier-defined related products, locations for the product, active suppliers for the product, attribute types for the product such as style, size, and color, or any  
10 other appropriate product information. Fulfillment server 16 may also maintain information about attributes, separate from any particular product, such as attribute type, description, value range, UOM, particular attributes within an attribute type, and any other suitable attribute information.

Fulfillment server 16 may maintain sales channels (customers) and parent-child or other hierarchical relationships between sales channels, which fulfillment  
15 server 16 may use for order promising and other suitable purposes, as discussed more fully below. In one embodiment, definitions for each sales channel maintained at fulfillment server 16 include, in any combination and without limitation: (1) name, (2) description, (3) category, (4) parent, (5) children, (6) ranked or other list of groups  
20 fulfillment server 16 may use in determining product sourcing, (7) products customer has or may order, (8) ranked or other list of groups for given product, (9) ranked or other list of suppliers for each product, (10) whether customer accepts alternate or substitute products generally or for given product, (11) ranked or other list of alternate or substitutes for each product, (12) whether customer accepts alternate sourcing  
25 groups generally or for given product, (13) target or mandatory price limit or price range for each product, (14) whether the customer prefers only full shipments generally or for given product, (15) whether the customer prefers unfulfilled portions of requests to be canceled rather than carried as backlog generally or for given product, (16) whether the customer prefers only on-time shipments generally or for a  
30 given product such that early or late promises are rejected, (17) delivery window outside of which a late or early shipment is not acceptable, (18) required lot size or multiple for given product such that quotations are rounded based on this value, and

(19) whether customer generally prefers that if request line-item is shorted then logically associated request line-items are shorted proportionally, (20) customer identifier, (21) communications protocols supported by the customer for receiving quotations, promises, acceptances, and/or other information, (22) communications protocols supported by the customer for communicating requests for quotation, quotation acceptances, and/or other information, and (23) network addresses used to communicate with the customer. Fulfillment server 16 may process request line-items through alternate groups or suppliers if a primary group or supplier is unable to service a request. Within a preferred group, supplier preferences are honored if they are defined. Lists of alternates or substitutes should generally not be restrictive, such that if an acceptable quotation response is not available from a preferred supplier, fulfillment server 16 may locate product allocation or materials or capacity availability from other potential suppliers. For requests that do not explicitly disallow alternates or substitutes, and do not specify customer-preferred alternates, the supplier may be able to respond with its own selection of alternates or substitutes.

Fulfillment server 16 may maintain information regarding suppliers and parent-child or other hierarchical relationships between suppliers, which fulfillment server 16 may use for order promising and other suitable purposes, as discussed more fully below. In one embodiment, definitions for suppliers maintained at fulfillment server 16 may include, in any suitable combination, without limitation: (1) name, (2) description, (3) category, (4) parent, (5) children, (6) the products the supplier provides, (7) the groups associated with the supplier, (8) ranked or other list of preferred customers for a given product, (9) acceptable alternates or substitutes for a given product, (10) minimum and maximum quantities for orders, (11) order quantity constraint not allowing fulfillment server 16 to reduce the quotation quantity without affecting validity of quotation, (12) cancellation restrictions, (13) cancellation window outside of which orders cannot be canceled, (14) communications protocols supported by the supplier for receiving requests for quotation, quotation acceptances, cancellations, and/or other information; (15) communications protocols supported by the supplier for communication quotations, promises, acceptances, and/or other information; and (16) network addresses used to communicate with the supplier.